UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,235	06/28/2001	Lance W. Russell	10003532-1	8674

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EXAMINER
BILGRAMI, ASGHAR H

ART UNIT	PAPER NUMBER
2143	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/895,235	RUSSELL, LANCE W.
	Examiner	Art Unit
	Asghar Bilgrami	2143

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 May 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9,11-25 and 27-30* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,11-25 and 27-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>28 June 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

2.   Claims 5 rejected under 35 U.S.C. 102(e) as being anticipated by Turek (U.S.

6,460,070)

3.   As per claims 5 Turek disclosed a system for managing a plurality of distributed

nodes of a network, comprising: a recovery modules configured to migrate from one

network node to another, determine a status of a network, and initiate a recovery

process on a network node having one or more failed node processes (col.2, lines 37-

46, lines 63-67 & col.2, lines 1-46) wherein the recovery module is configured to

determine the status of a network node in accordance with a heartbeat messaging

protocol (col.2, lines 22-46). Although Turek did not specifically mentioned a heartbeat

messaging protocol to determine the status of a network node. However Turek did

disclose collecting information about network conditions to include network node by the

use of mobile software agents that that periodically check the network status

information, which is an inherent function of a heartbeat messaging protocol.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Turek (U.S.

6,460,070) and Harvell (U.S. 6,834,302 B1).

6.   As per claims 5 Turek disclosed a system for managing a plurality of distributed

nodes of a network, comprising: a recovery modules configured to migrate from one

network node to another, determine a status of a network, and initiate a recovery

process on a network node having one or more failed node processes (col.2, lines 65-

67 & col.2, lines 1-46) wherein the recovery module is configured to determine the

status of a network node in accordance with a heartbeat messaging protocol (col.2,

lines 22-46). However Turek did not specifically mentioned a heartbeat messaging

protocol to determine the status of a network node. In the same field of endeavor

Harvell disclosed a heartbeat messaging protocol to determine the status of a network

node (col.2, lines 50-56).

It would have been obvious to one in the ordinary skill in the art at the time the invention

was made to have incorporated the heartbeat messaging protocol to determine the

status of a network node as disclosed by Harvell in the a system for managing a

plurality of distributed nodes of a network as disclosed by Turek in order to make the

managing system more reliable and responsive resulting in determining accurate

diagnosis and status of the network nodes.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1-4, 6-9, 11-25 & 30 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Turek et al (U.S.6,460,070) and Sreenivasan (U.S. Pub No.

2002/0049845 A1).

9.   As per claims 1, 11, 19 & 20 Turek-Sreenivasan disclosed a method for

managing a plurality of distributed nodes of a network, comprising: a network

management module that launches migratory recovery modules into the network to

monitor status of each of the network nodes; wherein each of the recovery modules is

configured to migrate from one network to another, determine a respective status of

each of the network nodes to which it has migrated, and initiate a recovery process on

failed ones of the network nodes.(col.3, lines 48-64, col.1, lines 59-62, 65-67, col.2,

lines 22-26, col.2, lines 1-3, col.2, lines 22-26 & col.5, lines 32-60), having one or more

failed node processes, the recovery modules determine the status of each of the

network nodes, and the network management module monitors transmissions that are

received from the recovery modules to provide periodic monitoring of the status of the

network nodes (col.7, lines 58-67 & col.8, lines 1-9). Hoever Turek did not explicitly

disclose the recovery module (software agents) periodically sending network node

status. In the same field of endeavor Sreenivasan disclosed recovery modules sending

periodic status updates of a specific node to the other network entity node (page.2,

paragraph.26 & page.6, paragraphs. 111 & 112).

It would have been obvious to one in the ordinary skill in the art at the time the invention

was made to have incorporated a recovery module with periodic status update

capability as disclosed by Sreenivasan in the system of managing a plurality of

distributed nodes of a network in order to make the managing system more reliable and

responsive resulting in determining accurate diagnosis and status of the network nodes.

10.   As per claims 2, 12, 21, 23, 24 & 25 Turek-Sreenivasan disclosed the system of

claim 1, wherein at least one of the recovery module comprises a respective routing

component for determining a next hop address from an origin network node to a

destination network node (Turek, col.5, lines 32-60).

11.   As per claims 3 & 13 Turek-Sreenivasan disclosed the system of claim 2,

wherein the routing component is configured to determine the next hop address based

upon a routing table stored at the origin network node (Turek, col.5, lines 32-60)

12.   As per claims 4 & 14 Turek-Sreenivasan disclosed the system of claim 1,

wherein at least one of the recovery module is configured to determine the status of a

network node by sending an inter-process communication to a node process (Turek,

col.3, lines 65-67, col.4, lines 1-12 & col.5, lines 32-60).

13.   As per claim 15 Turek-Sreenivasan disclosed the method of claim 11, wherein

the status of the network node is determined in accordance with a heartbeat messaging

protocol (Sreenivasan, paragraph.78)

14.   As per claims 6 & 16 Turek-Sreenivasan disclosed the system of claim 1,

wherein each of the recovery module is configured to initiate a recovery process on a

network node having one or more failed node processes in accordance with a restart

protocol (Turek, col.6, lines 23-59).

15.   As per claims 7 & 17 Turek-Sreenivasan disclosed the system of claim 6,

wherein each of the recovery module is configured to initiate a restart of a failed node

process by transmitting a request to a process execution service operating on the failed

network node (Turek, col.6, lines 23-59).

16.   As per claims 8 & 18 Turek-Sreenivasan disclosed the system of claim 1,

wherein each of the recovery module is configured to transmit a respective node status

message to the network management module (Turek, col.2, lines 22-62).

17.   As per claim 9 Turek-Sreenivasan disclosed the system of claim 8, wherein each

of the node status messages comprises information obtained from a respective log file

generated at a respective failed one of the network node (Turek, col.8, lines 58-67 &

col.8, lines 1-9).

18.   As per claim 22 Turek-Sreenivasan disclosed the system of claim 21, wherein

the operating environment on each of the network nodes provides each of the recovery

modules with access to status monitoring resources, recovery resources, and native

operative system resources that are available at each of the network nodes (Turek,

col.8, lines 39-52).

19.   As per claim 30 Turek-Sreenivasan disclosed the system of claim 1, wherein the

network management module monitors number of network node failures reported by the

recovery modules and launches more migratory modules into the network as the

number of reported failures increases (Turek, col.5, lines 32-67).

Claim Rejections - 35 USC § 103

20.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

21.   Claims 27, 28 & 29 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Turek (U.S. 6,460,070) and Douik et al (U.S. 6,012,152).

22.   As per claims 27, 28 & 29 Turek-Sreenivasan disclosed the system of claim 1.

However Turek-Sreenivasan did not explicitly disclose, wherein the network

management module statistically identifies target ones of the network nodes to achieve

a specified confidence level of network monitoring reliability, and proactively launches

the recovery modules into the network by transmitting respective ones of the recovery

modules to the identified target network nodes. In the same field of endeavor Douik

disclosed wherein the network management module statistically identifies target ones of

the network nodes to achieve a specified confidence level of network monitoring

reliability, and launches the recovery modules into the network by transmitting

respective ones of the recovery modules to the identified target network nodes (col.11, lines 64-67 & col.12, lines 1-19).

It would have been obvious to one in the ordinary skill in the at the time the invention was made to have incorporated statistical means for managing network by proactively launching recovery modules as disclosed Douik in the method of managing plurality of nodes as disclosed by Turik-Sreenivasan in order to automate and enhance the management of the network resulting in a trouble free and reliable network.

Response to Arguments

23.   Applicant's arguments filed May-7-2007 have been fully considered but they are not persuasive.

24.   Applicant argued that Turek does not disclose software agents use heartbeat messaging protocol to determine the status of the network node.

25.   As to applicant's Turek does disclose the heartbeat messaging protocol, although Turek does not "spell out" the name of the functionality to be heartbeat-messaging protocol. Turek on col.2, lines 22-26 states "Yet another object of the present invention is to collect information about network conditions as mobile software agents are dispatched and migrated throughout a large computer network to correct faults, wherein such information is then useful in diagnosing new faults."

Examiner has kept this rejection to show as evidence that Turek does anticipates the

functionally of the heartbeat messaging protocol as described by the applicant.

In addition the examiner has also rejected the claim 5 under 35 U.S.C.103 by utilizing

Turek and Harvell references to show the applicant that the "heartbeat messaging

protocol" functionally described by the applicant is not patentable.

26.   Applicant with respect to claim 5 argued that Harvell has "nothing whatsoever to

do with determining the status of a node".

27.   In response to applicant's arguments against the references individually, **one**

cannot show nonobviousness by attacking references individually where the

rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413,

208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed.

Cir. 1986). It is evident after reading the abstract of Harvell that the art deals with

determining the status of a node. Please also read col.2, lines 43-67.

When reviewing a reference the applicants should remember that not only the specific

teachings of a reference but also reasonable inferences which the artisan would have

logically drawn therefrom may be properly evaluated in formulating a rejection. In re

Preda, 401 F. 2d 825, 159 USPQ 342 (CCPA 1968) and In re Shepard, 319 F. 2d 194,

138 USPQ 148 (CCPA 1963). Skill in the art is presumed. In re Sovish, 769 F. 2d 738,

226 USPQ 771 (Fed. Cir. 1985). Furthermore, **artisans must be presumed to know**

something about the art apart from what the references disclose. In re Jacoby,

309 F. 2d 513, 135 USPQ 317 (CCPA 1962). The conclusion of obviousness may be

made from common knowledge and common sense of a person of ordinary skill in the

art without any specific hint or suggestion in a particular reference. In re Bozek, 416

F.2d 1385, 163 USPQ 545 (CCPA 1969). Every reference relies to some extent on

knowledge of persons skilled in the art to complement that is disclosed therein. In re

Bode, 550 F. 2d 656, 193 USPQ 12 (CCPA 1977).

28.   Applicant argue that "Turek does not or each or suggest anything that would

have led on skilled in the art at the time the invention was made to believe that the

software agent migrates to any other node **after** attempting to effect repairs".

29.   As to applicant argument with respect to claim language "**after** initiating the

recovery process, migrating from the current network node to a successive node" in

claims 11 & 20. The examiner gave 112 first paragraph rejection on August 25-2006 for

lack of indication in the applicant's specification regarding this limitation "**after** initiating

the recovery process, migrating from the current network node to a successive node".

Applicant's response on December-1-2006 was "It is well-settled, however, that the

specification need not contain a literal transcription of the claim language defining the

invention in order to satisfy the written description requirement. Instead, the application

need only reasonably convey the claimed subject matter to a person in the ordinary skill

in the art. In accordance with MPEP 2164.II.A.3(b).

Therefore Examiner is applying the same rationale that the disclosure of the applied

reference(s) need not contain a literal transcription of the claim language defining the

invention. Instead, the reference(s) need only reasonably convey the claimed subject

matter to a person in the ordinary skill in the art.

30.   Applicant from pages 5-8 argued that Turek does not disclose the claim limitation

of independent claim 1.

31.   In response to applicant's arguments against the references individually, **one**

cannot show nonobviousness by attacking references individually where the

rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413,

208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed.

Cir. 1986).

32.   Additionally, it would be beneficial for the applicant to narrow the claim language

of the all the independent claims in light of the disclosed specification to further

prosecution.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Asghar Bilgrami whose telephone number is 571-272-3907. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on 571-272-3924. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
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USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AB

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